

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

1(currently amended). A method for forming deep trenches in a semiconductor substrate, the method comprising:

- providing a semiconductor substrate;
- forming a pad oxide layer on the semiconductor substrate;
- forming a pad nitride layer on the semiconductor substrate;
- forming a borophosphosilicate glass layer on the pad nitride layer;
- forming a borosilicate glass layer on the borophosphosilicate glass layer, wherein the borophosphosilicate glass layer and the borosilicate glass layer together form a composite hard mask for forming deep trenches, with the borophosphosilicate glass layer serving as a strip layer for the composite hard mask; and

- forming deep trenches through the borosilicate glass layer, the borophosphosilicate glass layer, the pad nitride layer, the pad oxide layer and into the semiconductor substrate.

2(original). The method according to Claim 1, further comprising performing an annealing process between the steps of forming the borosilicate glass layer and the deep trenches.

3(original). The method according to Claim 1, further comprising utilization of vapor of hydrogen fluoride to etch the borosilicate glass layer and the borophosphosilicate glass in an anisotropic manner.

4(currently amended). A structure for forming deep trenches in a semiconductor substrate, the structure comprising:

- a semiconductor substrate;

Appl. No. 10/810,804  
Amendment dated: June 9, 2006  
Reply to OA of: March 9, 2006

a pad oxide layer on the semiconductor substrate;  
a pad nitride layer on the pad oxide layer;  
a borophosphosilicate glass layer on the pad nitride layer;  
and a borosilicate glass layer on the borophosphosilicate glass layer, wherein the borophosphosilicate glass layer and the borosilicate glass layer together form a composite hard mask for forming deep trenches, with the borophosphosilicate glass layer serving as a strip layer for the composite hard mask.

5(new). The method according to claim 1, further comprising forming an undoped silicate layer on the borosilicate layer before forming the deep trenches.

6(new). The method according to claim 1, further comprising the step of completely removing the borophosphosilicate glass layer and the borosilicate glass layer after the deep trenches are formed.